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ABSTRACT

The study discusses the development of a self-concept measure for children in kindergarten and the lower elementary grades. A scale (Pictorial Self-Concept Scale), was constructed from children's statements about themselves. This scale was administered to kindergarten through fourth grade subjects. Each child separated 50 cartoon picture cards into three piles depending on whether the specific child in the cartoon is like him, not like him, or sometimes like him. Scoring was based on placement of the card and the weighted card value. A panel of psychologists and human development specialists ranked the cards according to importance to a child's self-concept on a continuum from positive to negative. Two validity hypothesis were tested: (1) a significant relationship exists between scores on the pictorial self-concept scale and the Piers and Harris self-concept measure, and (2) scores for subjects judged by principals and teachers as having positive self-concepts will be different from those judged by principals and teachers as having negative self-concepts. The constructed scale has been successfully used in five other research projects. (author/MC)

The Development and Validation of a Pictorial Self-Concept Scale for Children in K-4[1]

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The purpose of this research was to develop a self-concept measure which could be used with children in kindergarten and the lower elementary grades. The self-concept has been frequently mentioned as an important variable in education (Hamachek, 1965; LaBenne and Greene, 1969; McCandless, 1967), but little research has been conducted on the development and functioning of the self-concept in the early elementary years. One reason for this lack is that few instruments for measuring the self-concept in the pre-reading years are available. It was determined that there was a need for a non-verbal instrument which could be efficiently administered to groups of children.

Measurement of the self-concept has been criticized as constituting a number of inaccurate, and even contradictory, set of measuring devices (Crowne and Stephens, 1961; Wylie, 1961). Because of this criticism of self-concept measurement in the past it was determined that the present scale would be developed from definitions of the construct that had been used in developing other scales of high reliability and for which there was some validity evidence. One of the approaches which has been used successfully in the development of self-concept measures for children in

1. Paper presented at the Annual Meeting of the National Council on Measurement in Education, Minneapolis, March, 1970.

the upper-elementary years has been to look at statements which children make about themselves as a basis for constructing self-concept items (Perkins, 1958; Piers and Harris, 1964). It was, therefore, determined that the present scale would be constructed from the base of children's statements about themselves.

Development of Item Pool

Cartoon-type pictures were drawn as representations of Jersild's (1952) categories of what children said they liked and disliked about themselves. After the cartoons were drawn a panel of judges determined that, with the exception of "privacy", each of Jersild's categories was represented in the set of pictures. This determination was made by the judges sorting the cartoons back into Jersild's categories with no prior knowledge as to which category the particular cartoon was supposed to represent. Some items were revised on the basis of suggestions of these judges. The final pool was reduced to 50 cartoons, with each of Jersild's categories represented except "privacy".

Administration and Scoring

The Pictorial Self-Concept Scale (will be referred to as PSC) was administered to 1813 subjects comprising all of the children attending 56 classrooms on the day of testing. This testing was done in connection with an evaluation of the child and youth study program of the Institute for Child Study of the University of Maryland (Bolea, 1969).

Each child was given a deck of 50 three by five cards. Each card contained a cartoon picture. The scale is differentiated for sex so that the

central figure in the cartoon is distinquished as male or female by clothing and hair. The activity pictured is the same for each sex. Girls are given cards on which the central figure is female and boys are given cards on which the central figure is male. Each child was told to decide whether the child with the star on his shirt in the picture (the central figure) was like him, not like him, or sometimes like him. Each child separated the pictures into separate piles that are placed on three different sized and different colors of paper. One color and size represented "like me", another color and size "sometimes like me", and another color and size "not like me". A teacher or an assistant recorded the placement of items on a three-column numbered score sheet as the children finished. Later, these scores were transferred to the weighted score sheet where the value of the placement of the item was tabulated.[1]

Scoring is based on the placement of the card and the weighted value of the card. This procedure was developed using McCandless' (1967) rationale for self-concept. McCandless says that self-concept is composed of two aspects, the individual's rating of himself in areas and the value of the particular areas. The placement of the card was accepted as the individual's rating of himself in the area. The value of the areas was determined by expert judgment. A panel of eight psychologists and human development specialists ranked the 50 cartoon-cards according to which items would be of most importance to a child's self-concept on a continuum from positive to negative. The average rank of the eight judges was accepted as the

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1. Two computerized scoring programs have been developed and are available through Angelo Bolea, Institute for Child Study, University of Maryland.

weighted value of the card. The reliability of the ranking was tested using the coefficient of concordance. The coefficient was .85, $p < .05$.

Means and standard deviations for the test are presented in Table 1.

Insert Table 1

Reliability and Validity

The split-half reliability with 1813 subjects was .85 corrected for length. This would seem to be comparable to the reliability coefficients which Piers and Harris (1964) found in their sixth and tenth grade samples.

The evidence concerning validity is of two types. The first type follows the recommendations of Cronbach and Meehl (1955) concerning construct validation of psychological tests. The authors have gathered evidence which has been specifically designed to give validity information. The second type of validity information has been the result of successful use of the scale in research. The hypotheses of the studies quoted were not primarily formulated to test the validity of the instrument, but the fact that the instrument has been used in hypotheses testing where the hypotheses have been confirmed can be interpreted as evidence of the validity of the scale.

The authors advanced two hypotheses concerning the validity of the instrument. If the PSC scale measures self-concept, then:

1. there will be a significant relationship between scores on the PSC and the Piers and Harris self-concept measure. The correlations are presented in Table 2 and support the hypothesis.

Insert Table 2

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2. the scores for subjects judged by principals and teachers as having positive self-concepts will be different from those judged by principals and teachers as having negative self-concepts.

At the time of the administration of the PSC, and before test results were known teachers and principals were asked to select a boy and a girl with a positive self-concept and a boy and a girl with a negative self-concept from each of the first, second, and third grade classrooms. Only those subjects on which there was agreement were used in testing the hypothesis. The analysis for differences is found in Table 3.

Insert Table 3

In addition to these two validity hypotheses the scale has successfully been used in the following research:

Storm (1968) found that 91% of a sample of 34 Negro first graders had both a negative self-concept and a distorted race image.

Sun (1969) chose a positive self-concept group (N=60) and a negative self-concept group (N=60) using the PSC. Her prediction that the high self-concept group would be less restricted in their drawing was supported.

Desrosiers (1968) tested the hypothesis that students who have perceptual impairment as measured by the Frostig test of visual perception will also have negative self-concepts. The hypothesis was supported using the PSC.

Vols (1968) found on increase in self-concept scores associated with an increase in differentiation of self-portraits in a study involving 65 children.

Zoppetti (1967) found a positive relationship between changes in peer ratings and changes in self-concept using the PSC with a sample of educable mentally retarded children.

Summary

A self-concept scale for children in K-4 was developed using cartoon pictures representing Jersild's categories of children's responses. The validations studies reviewed and the successful use of the scale in a number of investigations of self-concept indicate that the scale is useful with children in situations where reading ability has not yet been gained.

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Table 1

Means and Standard Deviations for Pictorial Self-Concept Scores

	Grade				
	K	1	2	3	4
Girls					
N	42	264	350	268	55
$\bar{X}$	35.00	35.00	45.00	49.00	48.00
SD	32.10	27.48	28.18	28.25	28.51
Boys					
N	38	205	297	244	50
$\bar{X}$	36.00	35.00	44.00	47.00	47.00
SD	33.05	28.16	28.13	28.33	28.41
Total					
N	80	469	647	512	105
$\bar{X}$	35.50	35.00	44.61	48.00	47.51
SD	32.51	27.82	28.15	28.29	28.46

Table 2

Correlation Between PSC and Piers-Harris Self-Concept Scale in Fourth Grade sample

	N	r	P
Girls	30	.53	$< .01$
Boys	33	.31	$< .10$
Total	63	.42	$< .01$

Table 3

Differences on the Pictorial Self-Concept Scale Between Subjects Designated By Teachers and Principals as Positive and Negative Self-Concept Groups

	N	$\bar{X}$	S.D.	t
Girls				
Positive Self-Concept	32	55.00	25.00	3.880**
Negative Self-Concept	31	29.00	28.00	
Boys				
Positive Self-Concept	31	44.00	30.00	2.285*
Negative Self-Concept	36	28.00	27.00	

* $p < .05$

** $p < .01$